

**PATENT ABSTRACTS OF JAPAN**(11)Publication number : **09-059877**(43)Date of publication of application : **04.03.1997**

(51)Int.Cl.

D06M 23/08  
C11D 3/00  
D06M 11/00(21)Application number : **07-235968**(71)Applicant : **FUJITA SANAI**(22)Date of filing : **23.08.1995**(72)Inventor : **FUJITA SANAI****(54) FINISHING AGENT FOR CLOTHES, ETC., AFTER WASHING****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To promote the cleaning effect and develop various functions such as deodorizing, antibacterial and sterilizing effects by adding animal bone meal to a finishing agent to be applied to washed clothes.

**SOLUTION:** Animal bone meal is prepared by boiling raw animal bone composed mainly of hard bone of cattle, horse, sheep, etc., baking at 900-1,100° C and crushing the baked product. The animal bone meal is added in an amount of 5-25 pts.wt. to 100 pts.wt. of a finishing agent such as a softening agent or a stiff finishing agent to be applied after the washing of clothes and the washed clothes are subjected to finish treatment with the finishing agent.

**LEGAL STATUS**

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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CLAIMS

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[Claim(s)]

[Claim 1] After [ wash ] finishing compounds, such as clothing characterized by carrying out 5-25 weight section combination of the animal bone meal of 150-250 meshes to the after [ wash ] finishing compound 100 weight sections, such as clothing.

[Claim 2] After [ wash ] finishing compounds, such as clothing according to claim 1 with which the animal bone meal you are made to blend with the finishing compound after said wash is characterized by the bone of a cow, a horse, and the sheep being a subject's animal bone meal.

[Claim 3] After [ wash ] finishing compounds, such as clothing given in either of claims 1 or 2 characterized by for said animal bone meal boiling an animal student bone, calcinating around 900 degrees C - 1100 degrees C, crushing, and obtaining it.

[Claim 4] After [ wash ] finishing compounds, such as clothing according to claim 1 to 3 with which the finishing compound after said wash is characterized by being a fabric softener.

[Claim 5] After [ wash ] finishing compounds, such as clothing according to claim 1 to 3 with which the finishing compound after said wash is characterized by being a hardening finishing compound.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the finishing compound after wash for finishing clothing of an underwear and others, bedding of a sheet and others, etc. which were washed.

[0002]

[Description of the Prior Art] After washing clothing, a sheet, etc. conventionally, to the thing in contact with the skin of an underwear and others, various finishing compounds like the hardening finishing compound equivalent to a wash paste from ancient times for a fabric softener to finish smartly to shirts, a yukata, a sheet, a bed cover, etc. again are used.

[0003] Although such a wash finishing compound demonstrates the finishing effectiveness made into the desired end under the limited conditions, if it sees from the point of antibacterial or deodorization, it will not necessarily demonstrate satisfactory effectiveness.

[0004] Moreover, a direct river being stocked through [ as the so-called domestic wasted water ] a purge like [ the finishing compound after wash ] the case of a detergent, and having big effect on natural environment is pointed out.

[0005] Therefore, it is matter independent [ concerned ], or it must act with other matter of a certain, and the situation where matter which brings about natural destruction is used must also be avoided.

[0006]

[Problem(s) to be Solved by the Invention] While this invention is made in view of the above-mentioned situation and demonstrating many functions, such as deodorization, antibacterial, and sterilization, it aims at offering the finishing compound after wash which promotes a cleaning effect and does not destroy natural environment with the wastewater.

[0007]

[Means for Solving the Problem] This invention is characterized by being after [ wash ] finishing compounds, such as 5 - 25 weight section and clothing which carried out 10-20 weight section combination preferably, about the animal bone meal of 150-250 meshes to the after [ wash ] finishing compound 100 weight sections, such as clothing.

[0008] If there are few loadings of the animal bone meal in this case than 5 weight sections, they will become thin [ effectiveness ]. If [ than 25 weight sections ] more [ on the contrary ], when necessary rinse time amount will become long, effectiveness is saturated and it becomes uneconomical.

[0009] Moreover, the bone of a cow, a horse, and the sheep can use as a subject's animal bone meal the animal bone meal used in this invention.

[0010] The animal bone meal furthermore used in this invention should boil the animal student bone, should calcinate at the elevated temperature around 900 degrees C - 1100 degrees C, should be crushed, and should be obtained.

[0011] According to this invention, detergency can be promoted during the finishing processing after wash. Moreover, effectiveness of said finishing compound original after wash is not

checked at all.

[0012] Furthermore, said animal bone meal blended with the finishing compound after wash is water-insoluble nature, remains partially to the clothing after finishing, and bedding, and, also after that, demonstrates sterilization, antibacterial, and the deodorization effectiveness.

[0013] Since said animal bone meal blended with the finishing compound after wash concerning this invention is an alkali mineral, it is kind to natural environment and does not have a possibility of causing the water pollution of a river, the eutrophication phenomenon of a lake, etc.

[0014] Demonstrating such effectiveness is understood as what is depended on the following reasons. That is, the animal bone meal blended with the finishing compound after wash concerning this invention is alkaline calcium, and demonstrates an alkali ionization operation. Therefore, the water between the finishing processings with a washing machine etc. and in a tub is mineral-ized.

[0015] Consequently, since the water in a tub is changed or carbonated to alkalinity, wash underwater zymolysis is promoted and the elution of the fat which has entered into the fiber of the washing is helped. Therefore, between the finishing operations after wash promotes a cleaning effect.

[0016] In this invention, the approach of blending an animal bone meal with the finishing compound after wash is not limited exceptionally. What is necessary is to divide the specified quantity into one time or several order, to mix after the proper part of the manufacture process concerned, for example, the termination nearness like a manufacture line, and termination, and just to stir so that it may be in a homogeneous distributed condition when the manufacture process of the finishing compound after wash is performed by the batch type.

[0017] Moreover, when the manufacture process of the finishing compound after wash is continuous system, an animal bone meal feed zone can be prepared in the proper stage of a manufacture process, and it can constitute so that the specified quantity may be supplied continuously. It can constitute so that in any [ these ] case you may make it once dissolve in a suitable solvent and this solvent containing an animal bone meal may be mixed in consideration of the difficulty of dealing with it of impalpable powder.

[0018]

[Example] Next, the example which materialized this invention is explained to a detail.

[0019] The animal bone meal used by this invention was almost discarded conventionally in the slaughterhouse etc., bones, such as a bone by which hanger-on treatment is usually carried out as large-sized trash especially a cow, a horse, and a sheep, are bones of a subject's animal, and processed the raw bone of a cow as follows, and obtained it here.

[0020] It cuts and boils in the magnitude which is easy to calcinate a raw bone, and calcinates around 900 degrees C - 1100 degrees C. Since it will become the cause of oxidation putrefaction if the organic substance, such as gelatin other than a bone component, a fat, protein, and glue, remains to a bone, it is necessary to remove this certainly.

[0021] According to the above-mentioned boiling process, separation removal not only of a bony outside but the organic substance which has adhered in pore can be almost carried out from a bone.

[0022] By letting the above-mentioned baking process pass on it, the organic substance which remains can be removed completely and it is the humidity in a bone to coincidence. (moisture) It can be made to fall even to about 0% preferably several% or less.

[0023] According to the above-mentioned baking conditions, a bone skeletonizes and maintains an original-form organization condition with countless pore. After the above-mentioned baking cooling, this bone is crushed and it considers as a bone meal.

[0024] As for the above-mentioned bone meal, in the case of a raw bone, as compared with the raw bone of a raw material, the yield of 40% of weight ratio abbreviation is obtained. A particle uses calcium (about 33 % of the weight) as a principal component, and is Lynn (about 16.7 % of

the weight). Barium (about 1.03 % of the weight) Sodium (about 0.76 % of the weight) Sulfur (about 0.64 % of the weight) It is others from magnesium, a potassium, chlorine, an amine, iron, etc., and the countless microporosity is recognizing free passage existence over the inside and outside of a particle, it is alkalinity and an ionic action is demonstrated.

[0025] As described above, the particle of the animal bone meal blended and mixed in the finishing compound after wash has work of endoergic and heat dissipation very strong in adsorbent [, such as moisture and a smell, ] in response to heat because of the countless microporosity which recognizes free passage existence over the inside and outside. Furthermore, this cow bone powder has a bactericidal effect while having the work which promotes desiccation for alkalinity.

[0026] As for this animal bone meal in this case, what was made into 150-250 meshes still more preferably 100-300 meshes, having applied to grinding equipment is desirable.

[0027] In this example, combination of said cow bone powder to the finishing compound after flexible system wash was performed as follows.

[0028] First, 50 degrees C - 100 degrees C of said animal bone meal about 30 to 10 weight sections and the solutions with which said animal bone meal about 20 to 10 weight section was mixed to water 80 - 90 weight sections still more preferably were prepared for the water around 60 degrees C - 90 degrees C to \*\*\*\* 70 - 90 weight sections still more preferably.

[0029] To the after [ wash ] finishing compound 100 weight section, this solution was blended so that an animal bone meal might serve as 10 weight sections, and it was fully stirred.

[0030] Thus, according to the obtained finishing compound after wash, some animal bone meals adhere to the washing by adding this finishing compound like the usual finishing compound, and performing finishing processing after wash. Consequently, between rinse is rinsed, water is made into alkalinity or neutrality, zymolysis is promoted, separation of fat is advanced, and detergency is promoted.

[0031] Moreover, effectiveness, such as sterilization, antibacterial, and deodorization, is promoted by the ionic action of the alkaline gas emitted to the washing after a rinse in a heat dissipation operation of this animal bone meal produced according to temperature changes, such as temperature over the animal bone meal which carries out a minute amount residual.

[0032]

[Effect of the Invention] As explained above, the finishing compound after wash concerning this invention demonstrates the operation which promotes detergency between finishing processing and rinse processing. Furthermore, it has sterilization, mildewproofing, and a deodorization function to the washing after desiccation.

[0033] Therefore, since effectiveness, such as antibacterial, sterilization, and deodorization, is demonstrated, the cleanliness of the washing is maintained by use of the finishing compound after wash concerning this invention, and effectiveness remarkable also in prevention of the various allergy of childhood asthma and others is demonstrated by it.

[0034] Moreover, since the animal bone meal blended with the finishing compound after wash concerning this invention is a natural alkali mineral, it does not have a bad influence on natural environment, and generating of public nuisances, such as water pollution in a river or a lake and eutrophication, natural destruction, etc. is controlled.

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[Translation done.]

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開平9-59877

(43) 公開日 平成9年(1997)3月4日

(51) Int. Cl. <sup>6</sup>

識別記号

F I

D06M 23/08

D06M 23/08

C11D 3/00

C11D 3/00

D06M 11/00

D06M 11/00

Z

審査請求 未請求 請求項の数5 F D (全3頁)

(21) 出願番号

特願平7-235968

(22) 出願日

平成7年(1995)8月23日

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(54) 【発明の名称】衣類等の洗濯後仕上げ剤

(57) 【要約】

【課題】 脱臭、抗菌、殺菌等の諸機能を発揮するとともに、洗浄効果を助長し、かつその排水によって自然環境を破壊することのない洗濯後仕上げ剤を提供することを課題とする。

【解決手段】 衣類等の洗濯後仕上げ剤100重量部に対して、150～250メッシュの動物骨粉を3～30重量部、好ましくは5～25重量部配合した、衣類等の洗濯後仕上げ剤である。この場合の動物骨粉には、焼成した硬骨を主体とする牛、馬、羊の骨を粉碎したものを好適に使用することができる。

## 【特許請求の範囲】

【請求項 1】 衣類等の洗濯後仕上げ剤 100 重量部に対して、150～250メッシュの動物骨粉を 5～25 重量部配合したことを特徴とする衣類等の洗濯後仕上げ剤。

【請求項 2】 前記洗濯後仕上げ剤に配合せしめられる動物骨粉が、牛、馬、羊の硬骨が主体の動物骨粉であることを特徴とする請求項 1 に記載の衣類等の洗濯後仕上げ剤。

【請求項 3】 前記動物骨粉が、動物生骨を煮沸し、900℃～1100℃前後で焼成し、破碎して得られたものであることを特徴とする請求項 1 または 2 のいずれかに記載の衣類等の洗濯後仕上げ剤。

【請求項 4】 前記洗濯後仕上げ剤が、柔軟仕上げ剤であることを特徴とする請求項 1 ないし 3 のいずれかに記載の衣類等の洗濯後仕上げ剤。

【請求項 5】 前記洗濯後仕上げ剤が、硬化仕上げ剤であることを特徴とする請求項 1 ないし 3 のいずれかに記載の衣類等の洗濯後仕上げ剤。

## 【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、洗濯した肌着その他の衣類や敷布その他の寝具等を仕上げるための洗濯後仕上げ剤に関するものである。

【0002】

【従来の技術】従来、衣類、敷布等を洗濯した後、肌着その他の皮膚に接触するものに対しては、柔軟仕上げ剤が、また、シャツ類、浴衣、シーツ、ベッドカバー等に対しては、ぱりっと仕上げるための、古来の洗濯糊に相当する硬化仕上げ剤のような各種仕上げ剤が使用されている。

【0003】このような洗濯仕上げ剤は、限られた条件のもとで所期の目的とする仕上げ効果を発揮するものの、抗菌や防臭の点からみれば必ずしも満足な効果を発揮していない。

【0004】また、洗濯後仕上げ剤は、洗剤の場合と同様に、いわゆる生活排水として、浄化装置を経て、または直接河川に放流され、自然環境に大きな影響を与えることが指摘されている。

【0005】したがって、当該物質単独で、または他の何らかの物質と作用して、自然破壊をもたらすような物質が使用される事態も回避しなければならない。

【0006】

【発明が解決しようとする課題】本発明は上記事情に鑑みなされたものであり、脱臭、抗菌、殺菌等の諸機能を発揮するとともに、洗浄効果を助長し、かつその排水によって自然環境を破壊することのない洗濯後仕上げ剤を提供することを目的とする。

【0007】

【課題を解決するための手段】本発明は、衣類等の洗濯

後仕上げ剤 100 重量部に対して、150～250メッシュの動物骨粉を 5～25 重量部、好ましくは 10～20 重量部配合した、衣類等の洗濯後仕上げ剤であることを特徴とする。

【0008】この場合の動物骨粉の配合量は、5 重量部より少ないと、効果が希薄となる。反対に 25 重量部より多いと、所要濯ぎ時間が長くなる上、効果が飽和して不経済となる。

【0009】また本発明において使用される動物骨粉は、牛、馬、羊の硬骨が主体の動物骨粉とすることができる。

【0010】さらに本発明において使用される動物骨粉は、動物生骨を煮沸し、900℃～1100℃前後の高温で焼成し、破碎して得られたものとしてすることができる。

【0011】本発明によれば、洗濯後仕上げ処理の間、洗浄作用を助長することができる。また、前記洗濯後仕上げ剤本来の効果をなんら阻害しない。

【0012】さらに、洗濯後仕上げ剤に配合される前記動物骨粉は、水不溶性であり、仕上げ後の衣類、寝具類に対して部分的に残留し、その後も殺菌、抗菌、消臭効果を発揮する。

【0013】本発明にかかる洗濯後仕上げ剤に配合される前記動物骨粉は、アルカリミネラルであるため、自然環境に優しく、河川の水質汚濁や湖沼の富栄養化現象等を引き起こすおそれがない。

【0014】このような効果を発揮するのは、以下のような理由によるものと解される。すなわち、本発明にかかる洗濯後仕上げ剤に配合される動物骨粉は、アルカリ性のカルシウムであり、アルカリイオン化作用を発揮する。したがって、洗濯機等による仕上げ処理の間、槽内の水をミネラル化する。

【0015】その結果、槽内の水をアルカリ性に変換しあるいは中性化するので、洗濯水中の酵素分解を促進し、洗濯物の繊維中に入り込んでいる脂肪分の溶出を助ける。そのため、洗濯後仕上げ作用の間も、洗浄効果を助長する。

【0016】本発明において、動物骨粉を洗濯後仕上げ剤に配合する方法は、格別限定されない。洗濯後仕上げ剤の製造過程がバッチ式で行われる場合には、当該製造過程の適宜部分、例えば、製造行程の終了間近、または終了後に所定量を一時に、あるいは数次に分けて混入し、均質な分散状態となるように攪拌すればよい。

【0017】また、洗濯後仕上げ剤の製造過程が連続式である場合には、製造プロセスの適宜段に動物骨粉供給部を設け、所定量を連続的に供給するように構成することができる。これらいずれの場合にも、微粉末の取扱い難さを考慮して、適当な溶媒に一旦溶解せしめておき、この動物骨粉入り溶媒を混入するように構成することができる。

【 0 0 1 8 】

【実施例】次に、本発明を具体化した実施例について詳細に説明する。

【 0 0 1 9 】本発明で用いる動物骨粉は、従来屠殺場等でほとんど廃棄されており、通常は大形廃棄物として厄介者扱いされている骨、特に牛、馬、羊等の硬骨が主体の動物の骨であり、ここでは牛の生骨を次のように処理して得た。

【 0 0 2 0 】生骨を焼成しやすい大きさに切断し、煮沸し、900℃～1100℃前後で焼成する。骨に骨成分以外のゼラチン、脂肪、蛋白質、にかわ等の有機物が残存すると酸化腐敗の原因となるので、これを確実に除去する必要がある。

【 0 0 2 1 】上記煮沸工程によって、骨の外側のみならず気孔内に付着している有機物を骨から大方分離除去することができる。

【 0 0 2 2 】その上で上記焼成工程を通すことによって、残存する有機物を完全に除去することができ、同時に骨中の湿度（水分）を数％以下、好ましくはほぼ0％にまで低下させることができる。

【 0 0 2 3 】上記焼成条件によれば、骨は白骨化して無数の気孔を有した原形組織状態を維持する。上記焼成冷却後、この骨を破碎して骨粉とする。

【 0 0 2 4 】上記骨粉は、生骨の場合、原料の生骨に比して重量比約40％の収量が得られる。粒子は、カルシウム（約33重量％）を主成分とし、リン（約16.7重量％）、バリウム（約1.03重量％）、ナトリウム（約0.76重量％）、イオウ（約0.64重量％）、他にマグネシウム、カリウム、塩素、アミン、鉄等からなっており、粒子の内外にわたって無数微小気孔が連通存在しており、アルカリ性であり、イオン作用を発揮する。

【 0 0 2 5 】上記したように、洗濯後仕上げ剤に配合し混入する動物骨粉の粒子は、その内外にわたって連通存在する無数の微小気孔のために熱に反応して水分、臭い等の吸着性と共に、吸熱、放熱の働きが極めて強い。更に、該牛骨粉はアルカリ性のため乾燥を促進する働きがあると共に、殺菌効果を有する。

【 0 0 2 6 】この場合の該動物骨粉は、粉碎装置にかけて100～300メッシュ、更に好ましくは150～250メッシュとしたものが望ましい。

【 0 0 2 7 】本実施例においては、柔軟系洗濯後仕上げ剤に対する前記牛骨粉の配合は次のように行った。

【 0 0 2 8 】先ず、50℃～100℃、更に好ましくは60℃～90℃前後の水に、水約70～90重量部に対して前記動物骨粉約30～10重量部、更に好ましくは水80～90重量部に対して前記動物骨粉約20～10重量部を混ぜ合わせた溶液を用意した。

【 0 0 2 9 】この溶液を洗濯後仕上げ剤100重量部に対して、動物骨粉が10重量部となるように配合し、十分に攪拌した。

【 0 0 3 0 】このようにして得られた洗濯後仕上げ剤によれば、洗濯後に該仕上げ剤を通常の仕上げ剤と同様に添加して仕上げ処理を行うことにより、動物骨粉の一部は、洗濯物に付着する。その結果、濯ぎの間も濯ぎ水をアルカリ性または中性にし、酵素分解を促進して脂肪分の分離を進め、洗浄作用が助長される。

【 0 0 3 1 】また、濯ぎ後に洗濯物に微量残留する動物骨粉に対する体温等の温度変化に応じて生ずる、該動物骨粉の放熱作用で放出されるアルカリ性ガスのイオン作用により殺菌、抗菌および脱臭等の効果が促進される。

【 0 0 3 2 】

【発明の効果】以上説明したように、本発明に係る洗濯後仕上げ剤は、仕上げ処理ならびに濯ぎ処理の間に洗浄作用を助長する作用を発揮する。さらに、乾燥後の洗濯物に対して、殺菌・防カビ・脱臭機能を有する。

【 0 0 3 3 】従って、本発明に係る洗濯後仕上げ剤の使用により、抗菌、殺菌、消臭等の効果が発揮されることから、洗濯物の清潔さが保たれ、小児喘息その他の各種アレルギーの予防にも顕著な効果を発揮する。

【 0 0 3 4 】また、本発明に係る洗濯後仕上げ剤に配合される動物骨粉は天然のアルカリミネラルであるため、自然環境に悪影響を与えることはなく、河川や湖沼における水質汚濁、富栄養化等の公害や自然破壊等の発生が抑制される。